


Substitute Form PTO-1449 (Modified)	U.S. Department of Commerce Patent and Trademark Office	Attorney's Docket No. 14923.0035	Application No. 10/568,324
<b>Information Disclosure Statement by Applicant</b> (Use several sheets if necessary) (37 CFR §1.98(b))		Applicant Bob Coyne, et al.	
		Filing Date February 17, 2006	Group Art Unit Unknown

### U.S. Patent Documents

Examiner Initial	Desig. ID	Patent Number	Issue Date	Patentee	Class	Subclass	Filing Date If Appropriate
u	AA	5,032,404	07/16/1991	Lopez-Berestein, et al.			
	AB	5,204,029	04/20/1993	Morgan, et al.			
	AC	5,472,684	12/05/1995	Nabi, et al.			
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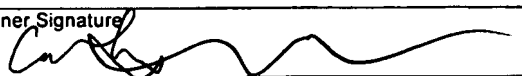
### Foreign Patent Documents or Published Foreign Patent Applications

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							Yes	No
	AM	0 687 417 A1	12/20/1995	EPO				
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	AT	7039355	02/10/1995	Japan			Abstract	
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	AV	509 098	08/13/1971	Switzerland				X
	AW	WO 87/01587	03/26/1987	WIPO				

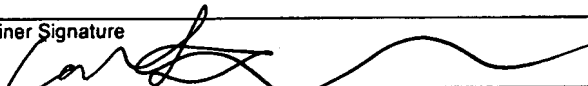
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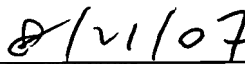
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							Yes	No
cc	AX	WO 97/47289	12/18/1997	WIPO				
	AY	WO 98/56395	12/17/1998	WIPO				
	AZ	WO 00/30631	06/02/2000	WIPO			Abstract	
	AAA	WO 02/069741 A1	09/12/2002	WIPO				
	ABB	WO 02/094224 A1	11/28/2002	WIPO				
	ACC	WO 2004/041251 A1	05/21/2004	WIPO				

Other Documents (include Author, Title, Date, and Place of Publication)		
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	ADD	..., "Inactivation of nisin by alpha-chymotrypsin," <i>The Journal of Dairy Science</i> (1969) Vol. 52: 9 pgs. 1448-1450.
	AEE	Alves, Virginia Farias, et al., "Bacteriocin exposure and food ingredients influence on growth and virulence of listeria monocytogenes in a model meat gravy system," <i>Journal of Food Safety</i> (2003) Vol. 23 pgs. 201-217.
	AFF	Aureli, P., et al., "Antimicrobial activity of some plant essential oils against listeria monocytogenes," <i>Journal of Food Protection</i> (1992) Vol. 55:5, pgs. 344-348.
	AGG	Backleh, M., et al., "Rapid quantitative enrichment of carnosic acid from rosemary ( <i>Rosmarinus officinalis</i> L.) by isoelectric focused adsorptive bubble chromatography," <i>Journal of Agricultural and Food Chemistry</i> (2003) Vol. 51:5, pgs. 1297-1301 (Abstract only).
	AHH	Basaga, Huveyda, et al., "Antioxidative and free radical scavenging properties of rosemary extract," <i>Academic Press Limited</i> (1997) pgs. 105-108.
	AIL	Bell, P. G., et al., "The efficacy of nisin, sorbic acid and monolaurin as preservatives in pasteurized cured meat products," <i>Food Microbiology</i> (1987) Vol. 4 pgs. 277-283.
	AJJ	Belmont, Jonathan, et al., "Pimaricin: Corneal Penetration via a liposome vehicle," Francis I Proctor Foundation, University of California, San Francisco (abstract only).
	AKK	Benech R.-O., et al., "Inhibition of listeria innocua in cheddar cheese by addition of nisin z in liposomes or by in situ production in mixed culture," <i>Applied and Environmental Microbiology</i> (2002) pgs. 3683-3690.
	ALL	Beuchat, L.R., "Antimicrobial Properties of Spices and Their Essential Oils," <i>Natural Antimicrobial Systems and Food Presentation VM Dillout and RC Rervd. CAB International</i> (1994) pgs. 167-179.
	AMM	Bower C. K., et al., "Suppression of listeria monocytogenes colonization following adsorption of nisin onto silica surfaces," <i>Applied and Environmental Microbiology</i> (1995) Vol. 61:3, pgs. 992-997.
	ANN	Bower, C. K., et al., "Influences on the antimicrobial activity of surface-adsorbed nisin," <i>Journal of Industrial Microbiology</i> (1995) Vol. 15 pgs. 227-233.

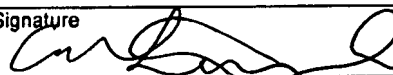
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C	AOO	Cahill, S. M., et al., "Bioencapsulation Technology in Meat Preservation," <i>Applied Microbiology</i> (2001) pgs. 239-266.					
	APP	Calucci, L., et al., "Effects of gamma-irradiation on the free radical and antioxidant contents in nine aromatic herbs and spices," <i>Journal of Argicultural and Food Chemistry</i> (2003) Vol. 51:4 pgs. 927-934 (abstract only).					
	AQQ	Campell, W., et al., "The impact of fortification with conjugated linoleic acid (CLA) on the quality of fluid milk," <i>Journal of Dairy Science</i> (2003) Vol. 86:1 pgs. 43-51 (abstract only)					
	ARR	Casterio, G., et al., "Research on the use of nisin in charcuterie products," <i>Industrie Alimentari</i> (1979) pgs. 1-12.					
	ASS	Clark, J. Peter, "Food encapsulation: capturing one substance by another," <i>Products &amp; Technologies</i> (2002) Vol. 56:11 pgs. 63-65.					
	ATT	Collins, M.A., et al., "Antimicrobial activity of carnosol and ursolic acid: two anti-oxidant constituents of rosmarinus officinalis L.," <i>Food Microbiology</i> (1987) Vol. 4, pgs. 311-315.					
	AUU	Cutter, C.N., et al., "Incorporation of nisin into a meat binding system to inhibit bacteria on beef surfaces," <i>Letters in Applied Microbiology</i> (1998) Vol. 27 pgs. 19-23.					
	AVV	Cutter, C.N., et al., "Growth of brochothrix thermosphacta in growth beef following immobilization of nisin in calcium alginate gels," <i>Letters in Applied Microbiology</i> (1996) Vol. 23 pgs 9-12.					
	AWW	Cutter, C.N., et al., "Reduction of brochothrix thermosphacta on beef surfaces following treatments with nisin in calcium alginate gels," <i>Food Microbiology</i> (1997) Vol. 14 pgs 425-430.					
	AXX	Cuvelier, Marie-Elisabeth, et al., "Antioxidative activity and phenolic composition of pilot-plant and commercial extracts of sage and rosemary," <i>JAOCs</i> (1996) Vol. 73:5, pgs. 645-650.					
	AYY	Daeschel, Mark A., et al., "Antimicrobial activity of nisin adsorbed to Hydrophilic and Hydrophobic Silicon Surfaces," <i>Journal of Food Protection</i> (1992) Vol. 55:9, pgs. 731-735.					
	AZZ	Degnam, Alan J., et al., "Influence of beef tallow and mucle on the antilisterial activity of pediocin AcH and liposome-encapsulated pediocin AcH," <i>Journal of Food Protection</i> (1992) Vol. 55:7 pgs. 552-554.					
	AAAA	Degnan, Alan J., et al., "Antilisterial acyivity of pediocin AcH in model food systems in the presence of an emulsifier or encapsulated within liposomes," <i>International Journal of Food Microbiology</i> (1993) Vol. 18 pgs. 127-138.					
	ABBB	Dougherty, Joel, et al., "Chronic blepharitis: new perspectives," University of Texas Health Science Center at Dallas, Texas (abstract only).					
	ACCC	Del Campo, Jose, et al., "Antimicrobial effect of rosemary extract," <i>Journal of Food Protection</i> (2000) Vol. 63:10, pgs. 1359-1368.					
	ADDD	Dufour, M., et al., "Development of a method to quantify in vitro the synergistic activity of 'natural' antimicrobials," <i>International Journal of Food Microbiology</i> (2000) Vol. 85 pgs. 249-258.					
AEEE	Eiserle, Robert J., "A natural flavoring and stabilization system for food," <i>Food Product Development</i> (1971) pgs 70-71.						
AFFF	Etayebi, Khalil, et al., "Synergistic effects of nisin and thymol on antimicrobial activities in listeria monocytogenes and bacillus subtilis," <i>FEMS Microbiology Letters</i> (2000) Vol. 183, pgs. 191-195.						
AGGG	Farbood, M. I., et al., "Effect of rosemary spice extractive on growth of microorganisms in meats," <i>J. Milk Food Technol.</i> (1976) Vol. 39: 10, pgs. 675-679.						

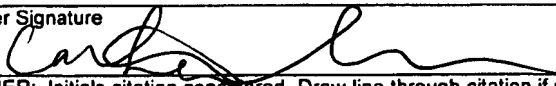
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U	AHHH	Fang, Tony J, et al., "Growth patterns of escherichia coli O157:H7 in ground beef treated with nisin, chelators, organic acids and their combinations immobilized in calcium alginate gels," <i>Food Microbiology</i> (2003) Vol. 20 pgs. 243-253.					
	AIII	Frankel, Edwin N., et al., "Antioxidant activity of a rosemary extract and its constituents, carnosic acid, carnosol, and rosmarinic acid in bulk oil and oil-in-water emulsion," <i>J. Agric. Food Chem.</i> (1996) Vol. 44, pgs. 131-135.					
	AJJJ	Franklin, S. T., et al., "Consumer evaluation of "high-CLA dairy products," produced from cows fed fish oil" University of Kentucky, Lexington, KY (abstract only).					
	AKKK	Gallagher, GA, et al., "Develop on-line verification and intervention procedures for HACCP in slaughter/processing systems," <i>Food Safety Progress Report</i> (2002).					
	ALLL	Gola, Jiri, "Preservation of canned hams stored at unusual temperatures," <i>Science and Research in the Food Industry</i> (1962) Vol.10, pgs. 239-244.					
	AMMM	Imm, J. Y., et al., "Control of acidification of yogurt by microencapsulated bacteriocin," Korean Food Research Institute, Korea Yakult Co., Ltd., Korea University (abstract only).					
	ANNN	Izco, Jesus M., et al., "Use of Capillary Electrophoresis (CE) to determine metabolic organic acids in milk," Dairy Products Technology Center, Cal. Poly. (abstract only).					
	AOOO	Jaben, Scott L., et al., "Intraocular miconazole therapy in fungal endophthalmitis," Department of Ophthalmology, Bascom Palmor Eye Institute, University of Miami School of Medicine (abstract only).					
	APPP	Jung, Dong-Sun, et al., "Influence of fat and emulsifiers on the efficacy of nisin in inhibiting listeria monocytogenes in fluid milk," <i>J. Dairy Science</i> (1992) Vol. 75, pgs. 387-393.					
	AQQQ	Kabara, Jon J., "Medium-Chain Fatty Acids and Esters," <i>Antimicrobials in Food Eats</i> PM Davidson & Albransen, Edt. Marcel Dekker (1993) pgs. 307-342.					
	ARRR	Kabara, Jon J., et al., "A new preservative system for food," <i>Journal of Food Safety</i> (1982) vol. 4 pgs 13-25.					
	ASSS	Kane, Anne, et al., "Intravitreal Injection of Gentamicin in Rabbits," New England Medical Center Hospital and Tufts University School of Medicine, Boston (abstract only).					
	ATTT	Krasaekoopt, Wunwisa, et al., "Evaluation of encapsulation techniques of probiotics for yoghurt," <i>International Dairy Journal</i> (2003) Vol. 13:1 pgs. 3-13.					
	AUUU	Lante, A., et al. "Nisin released from immobilization matrices as antimicrobial agent," <i>Biotechnology Letters</i> (1994) Vol. 16:3 pgs. 293-298.					
	AVVV	Lante, Anna, et al., "Il controllo di clostridi di interesse caseario con nisina immobilizzata in membrane semipermeabili," <i>Industria Alimentari</i> (2000) pgs. 589-594.					
	AWWW	Laridi, R., et al., "Liposome encapsulated nisin Z: Optimization, stability and release during milk fermentation," <i>International Dairy Journal</i> (2003) Vol. 13 pgs. 325-336.					
	AXXX	Lipstock, Kenneth, et al., "Toxicity of intravitral rifampin," Medical College of Virginia-Virginia Commonwealth University (abstract only).					
	AYYY	Mac Neil, J. H., et al. "Use of chemical compounds and a rosemary spice extract in quality maintenance of deboned poultry meat," <i>Journal of Food Science</i> (1973) Vol. 38 pgs 1080-1081.					
	AZZZ	MacNeil, Joseph H., "Frankfurters without nitrates or nitrites," <i>Food Product Development</i> pgs. 37-40.					
	AAAAA	Moujir, Laila, et al., "Structure-antimicrobial activity relationships of abietane diterpenes from salvia species," <i>Phytochemistry</i> (1993) Vol. 34:6, pgs. 1493-1495.					
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CL	ABBBB	Munne-Bosch, Sergi, et al. "Subcellular Compartmentation of the diterpene carnosic acid and its derivatives in the leaves of rosemary," <i>Plant Physiol.</i> (2001) Vol. 125:2, pgs. 1094-1102.					
	ACCCC	Munne-Bosch, Sergi, et al., "The formation of phenolic diterpenes in rosmarinus officinalis L. under Mediterranean climate," <i>Eur Food Res Technol</i> (2000) Vol. 210, pgs. 263-267.					
	ADDDD	Nychas, G.J.E., "Natural antimicrobials from plants," <i>New Methods of Food Presentation</i> (1995) pgs 58-89.					
	AEEEE	Olasupo, N.A., et al., "Activity of natural antimicrobial compounds against escherichia coli and salmonella enterica serovar typhimurium," <i>Letters in Applied Microbiology</i> (2003) Vol. 36, pgs. 448-451.					
	AFFFF	Pandit, V.A., et al., "Sensitivity of listeria monocytogenes to rosemary (rosmarinus officinalis L.)," <i>Food Microbiology</i> (1994) Vol. 11, pgs. 57-63.					
	AGGGG	Parmar, V. S., et al., "Synthesis, antimicrobial and antiviral activities of novel polyphenolic compounds," <i>Indian Journal of Chemistry</i> (1996) Vol. 35B p. 220-232.					
	AHHHH	Periago, P.M., et al., "Combined effect of nisin, carvacrol and thymol on the viability of Bacillus cereus heat-treated vegetative cells," <i>Food Science and Technology International</i> (2001) Vol. 7:6, pgs. 487-492.					
	AIIII	Periago, Paula M., et al., "Combined effect of nisin and carvacrol at different pH and temperature levels on the viability of different strains of bacillus cereus," <i>International Journal of Food Microbiology</i> (2001) Vol. 68, pgs. 141-148.					
	AJJJJ	Pol, I. E., et al., "Combined action of nisin and carvacrol on bacillus cereus and listeria monocytogenes," <i>Letters in Applied Microbiology</i> (1999) Vol. 29, pgs. 166-170.					
	AKKKK	Pol, Irene E., et al., "Bioengetic consequences of nisin combined with carvacrol towards bacillus cereus," <i>Innovative Food Science &amp; Emerging Technologies</i> (2002) Vol. 3, pgs. 55-61.					
	ALLLL	Powell, J., et al., "Sensory and analytical analysis of milk formulations with sweet cream buttermilk," Virginia Polytechnic Institute and State University (abstract only).					
	AMMMM	Quirin, K.W., "SFE of natural antioxidants from rosemary and sage," <i>Innovations in Food Technology</i> (2003) Vol. 81 pgs 31-33 (abstract only).					
	ANNNN	Richard, Jean A., "Use of bacteriocin producong starters advantageously in dairy industry," <i>INRA</i> , Dairy Research Unit.					
	AOOOO	Rose, N. L., et al., "Inactivation of nisin by glutathione in fresh meat," <i>Journal of Food Science</i> (1999) Vol. 64:5 pgs. 759-762.					
	APPPP	Rose, N. L., et al., "Nisin: a novel substrate for glutathione s-transferase isolated from fresh beef," <i>Journal of Food Science</i> (2002) Vol. 67 pgs. 2288-2293.					
	AQQQQ	Sagdic, O., et al., "Antibacterial activity of Turkish spice hydrosols," <i>Food Source Control</i> (2003) Vol. 14:3, pgs. 141-143 (abstract only).					
	ARRRR	Salim, A., et al., "A simple procedure for reducing lead content in fish," <i>Food and Chemical Toxicology</i> (2003) Vol. 41, pgs. 595-597.					
	ASSSS	Schlyter, Jimmy H., et al., "The effects of diacetate with nitrite, lactate, or pediocin on the viability of listeria monocytogenes in turkey slurries," <i>International Journal of Food Microbiology</i> (1993) Vol. 19 pgs. 271-281.					
ATTTT	Serra, Bonvehi, J., et al., "Flavour index and aroma profiles of fresh and processed honeys," <i>Journal of the Science of Food and Agriculture</i> (2003) Vol. 83:4, pgs. 275-282.						

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CU	AUUUU	Shahidi, Fereidoon, et al., "Encapsulation of food ingredients," <i>Critical Reviews in Food and Science and Nutrition</i> (1993) Vol. 33:6, pgs. 501-547.					
	AVVVV	Sidikaro, Joseph, et al., "Concentration of gentamicin in preocular tear film following topical application," Cullen Eye Institute, Baylor College of Medicine, Houston, Texas (abstract only).					
	AWWWW	Spillane, S. M., et al., "Antimicrobial effect on nisin-containing microspheres," <i>Proceed. Int'l. Symp. Control. Rel. Bioact. Mater.</i> (2000) Vol. 27 pg. 1373-1374.					
	AXXXX	Talcott, S.T., et al., "Phytochemical stability and color retention of copigmented and processed muscadine grape juice," <i>Journal of Agriculture and Food Chemistry</i> (2003) Vol. 51:4, pgs. 957-963.					
	AYYYY	Thaludom, S., et al., "Rheological properties of primary stabilizer/milk protien/rcarrageenan/sucrose systems simulating ice cream mix," University of Guelph, Guelph, ON, Canada (abstract only).					
	AZZZZ	Taylor, Steve L., et al., "Evaluation of the antibotulinal effectiveness of nisin in bacon," <i>Journal of Food Protection</i> (1985) Vol. 48:11 pgs. 949-952.					
	AAAAAA	Thomas, L. V., et al., "Synergist effect of sucrose fatty acid esters on nisin inhibition of gram-positive bacteria," <i>Journal of Applied Microbiology</i> (1998) Vol. 85, pgs. 1013-1022.					
	ABBBBB	Usborne, W. R., et al., "Sensory evaluation of nisin-treated bacon," <i>Canadian Institute of Food Science and Technology</i> (1986) Vol. 19:1 pgs. 38-40.					
	ACCCCC	Valero, M., et al., "Antibacterial activity of 11 essential oils against <i>Bacillus cereus</i> in tydnallized carrot broth," <i>Internal Journal of Food Microbiology</i> (2003) Vol. 85, pgs. 73-81.					
	ADDDDD	Walker, J.R.L. "Antimicrobial compounds in food plants," <i>Department of Plant and Microbial Sciences, University of Canterbury</i> pgs. 181-200.					
	AEEEEEE	Wan, J., et al., "Incorporation of nisin in micro-particles of calcium alginate," <i>Letters in Applied Microbiology</i> (1997) Vol. 24 pgs. 153-158.					
	AFFFFFF	Wan, J., et al., "Continuous production of bacteriocins, brevicin, nisin and pediocin, using calcium alginate-immobilized bacteria," <i>Journal of Applied Bacteriology</i> (1995) Vol. 79 pgs. 671-676.					
	AGGGGG	Were, Lilian M, et al., "Encapsulation of nisin and lysozyme in liposomes enhances efficacy against <i>listeria monocytogenes</i> ," <i>Journal of Food Protection</i> Vol. 67, (2004) pgs 922-927.					
✓	AHHHHH	Zaika, Laura L., "Spices and herbs:their antimicrobial activity and its determination," <i>Journal of Food and Safety</i> (1988) Vol. 9, pgs. 97-118.					

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